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COUNTY OF ORANGE

RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

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January 26, 2005

Mr. John Robertus, Executive Officer
San Diego Regional Water Quality Control Board
9174 Skypark Court, Suite 100
San Diego CA 92123

REQUEST TO RESCIND CLEANUP AND ABATEMENT ORDER NO. 99-211 (J03P02 STORM DRAIN IN THE CITY OF LAGUNA NIGUEL)

Dear Mr. Robertus:

The County of Orange, the Orange County Flood Control District and the City of Laguna Niguel (Co-Permittees), request the rescission of Cleanup and Abatement Order #99-211 ("Order"). The Order was issued in December of 1999 in response to elevated levels of fecal coliform bacteria at the J03P02 storm drain outfall in the City of Laguna Niguel. Since the Order was issued, the Co-Permittees have made extensive efforts to identify sources, reduce or eliminate anthropogenic sources, and monitor and reduce bacteria levels in the J03P02 storm drain. Even though the outfall of J03P02 continues to show elevated levels of fecal coliform, we believe rescission of the Order is appropriate and justifiable because:

1. The Co-Permittees have been diligent since December 1999 in monitoring J03P02 and Sulphur Creek and in implementing a long and expensive series of structural and non-structural BMPs. Most of the low flow water draining from the J03P02 watershed is now treated through constructed wetlands that produce water meeting REC-1 objectives.

2. Extensive state-of-the-art source investigations in the J03P02 watershed have shown that the fecal coliform in the outfall discharge is not derived from sewer leaks, as was generally assumed at the time the Order was issued. Multiple microbial source tracking studies indicated that the major sources of fecal coliform at J03P02 are non-point sources (predominantly birds). Scientific research nation-wide over the last few years since the Order was issued has shown that fecal coliform bacteria also propagate in surface waters and often occur in surface sediments and decaying vegetation. Recent findings in Mission Bay demonstrate that non-point source indicator bacteria

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are not associated epidemiologically with the same risks to public health as would occur with bacteria from a sewage source.

3. The Order has become redundant in the context of the Aliso Creek 13225 Directive ("Directive") issued in 2001 and the Bacteria I TMDL Implementation Plan ("TMDL") that will emerge in 2005. Any further source identification and reduction efforts and reporting would be most appropriately prioritized, directed and reported within the context of the Directive, the TMDL, and city-wide efforts to meet requirements of the NPDES MS4 Permit.

A brief summary of activities taken in response to the Order is enclosed. We appreciate your consideration of this matter. If you have any questions or wish to discuss it further, please contact Chris Crompton at (714)834-6662 or Nancy Palmer at (949)362-4384.

Sincerely,

Bryan Speegle
Director
County of Orange
Resources and Development
Management Department

Tim Casey
City Manager
City of Laguna Niguel

Enclosure: Summary of Actions Taken in Response to CAO 99-211

Cc: Bob Morris, RWQCB 9
Jeremy Haas RWQCB 9

SUMMARY OF ACTIONS TAKEN AT J03P02 IN RESPONSE TO CAO 99-211

Fall 1999 (prior to issuance of Order)

- Video surveillance of all sewer mains and examination for leaks by Moulton Niguel Water District. (none found)
- Video surveillance of storm drain mains for possible leaks.
- City initiates increased end-of-pipe monitoring and drainage area field reconnaissance.
- Diversion pipe to West Wetland unclogged, allowing low flow into existing underperforming mitigation wetland.

First Quarterly Progress Report (May 2000)

- Weekly end-of-pipe monitoring initiated by County.
- Diversion of low-flow runoff to sewage treatment plant initiated at the end of May.
- Sampling at West Wetland suggests it is effective at removing bacteria.
- Upwatershed in-pipe monitoring along tributary storm drains and in gutters showed ubiquity and spikiness of bacteria concentrations.
- Groundwater testing at subdrains all showed no bacteria.
- Flow monitoring initiated that shows J03P02 to contribute about 10% of flow into Sulphur Creek.
- Field investigations showed grass areas to be a potential source of bacteria.
- Bacteria numbers shown to rise as weather warms.
- Urban Runoff Questionaire distributed to all residents in the drainage area. Response rate was excellent (over 40%). Residents indicated that 58% observed wildlife waste at least weekly, 45% owned cats or dogs, 34% used organic mulches or fertilizers, and 52% confirmed their sprinkler water ran into the street.
- Several small storm drain repairs were made, but no sewage cross-contamination was identified.
- Trial Ponds constructed and evaluated at end of pipe, showing up to 70% removal of fecal coliform loads with ½ day holding time.
- City researches a wide range of potential bacterial removal structural BMPs.

Second Quarterly Progress Report (August 2000)

- Flow monitor demonstrated daily and weekly low-flow fluctuations, as well as rising total flow rate in the summer compared to winter due to increased irrigation.
- Groundwater analysis suggests that 1/3 of low flow coming out of J03P02 watershed is groundwater.
- Samples are collected for analysis by state-of-the-art experimental protocols to see if sewage contamination can be demonstrated or contraindicated.
- Weekly street sweeping initiated.
- Water quality presentations initiated to the Homeowners Associations within drainage area.
- City field investigations showed that organic amendments and grass clippings are potentially significant sources of fecal bacteria.

- Rabbit pellets from J03P02 were found to contain up to 4.8 million bacteria per gram. Birds were identified as sources based on reference literature.
- Tests of gutter muck and street-sweepings showed very high bacteria concentrations.
- With homeowner permission, several sewer laterals were videotaped but showed no signs of leaks.
- Tests by Caltrans showed that runoff from grass areas in Clipper Cove Park contained high bacteria loads but no pathogenic viruses, bacteria or parasites.
- Fencing and signs were installed around the J03P02 outfall to prevent any public access.
- City Public Works staff conducted a street-by-street walkthrough of the entire drainage area, noting gutter conditions, overwatering and debris.
- City proposes a Constructed Treatment Wetland Network to ultimately replace the sewer diversion.

Third Quarterly Progress Report (November 2000)

- Results of sewage-marker tests (linear alkyl benzenes, coprostanol, human adenovirus, human enterovirus, and toxin genes biomarkers) all fail to show any clear evidence of sewage contamination tests.
- Water audit at City's Clipper Cove Park shows City is under-irrigating by about 13%.
- Construction of the East Wetland on HOA property is initiated.

Fourth Quarterly Progress Report (February 2001)

- City reaches agreement with Clear Creek Systems to install an end-of-pipe treatment system using multi-step filtration and ultraviolet radiation.
- City submits Proposition 13 grant proposal for WetCAT Network.

Fifth Quarterly Progress Report (May 2001)

- Clear Creek System installed to take the place of the sewer diversion, returning cleaned water to the creek instead. System adjustments are made to achieve REC-1 quality in effluent.
- Proposition 13 proposal for WetCAT Network is approved by State Water Resources Control Board.

Sixth Quarterly Progress Report (August 2001)

- Monitoring of the newly-completed East Wetland demonstrates 95% removal of fecal coliform. West Wetland shows 93% removal.

Seventh through 19th Quarterly Reports (to October 2004)

- Monitoring for 13225 Directive for Aliso Creek demonstrates that J03P02 was not unusual in having elevated bacteria levels.
- Additional microbial source tracking studies in 2002 identify birds & bovine sources as major sources of bacteria, but show little to no indication of sewage sources
- WetCAT improvements are constructed
- WetCAT monitoring demonstrates wetlands' effectiveness at removing fecal coliform, but analysis shows that cleaned water becomes re-contaminated after discharge to pipe or creek.